Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

Harmful Algal Blooms (K. brevis)

1.2. Summary description of the data:

Multiple Harmful Algae Bloom (HAB) (K. brevis) data sets were obtained for this data layer, including Harmful Algal BloomS Observing System data (HABSOS) from NCEI (1953-2018) and the NOAA HAB Operational Forecast System Dataset (2007-2018). Data includes samples from Texas Parks and Wildlife Department (TPWD) the Louisiana Department of Health and Hospitals, Florida Fish and Wildlife Conservation Commission, Florida Fish and Wildlife Research Institute (FWRI), and the HAB Monitoring Database. Data were combined and reviewed for erroneous entries. Duplicate data from the resulting database were deleted, leaving a total of 155,307 observations. For the purpose of this K. brevis layer, only data from 2000-2018 were used due to sampling biases. An 8 square kilometer hexagonal grid was created covering the Gulf of Mexico and eastern Florida. Each year between 2000-2018 was evaluated separately. If a grid cell contained an observation that registered a value of over 100,000 cells/L (the lethal toxicity level for finfish), the grid cell received a value of ' 1‘. All other grid cells received a value of '0’ to represent observations below the lethal level of concern to fish. After all years were evaluated, the values for each year were totaled to obtain a resulting frequency value for that grid cell, representing the number of years that grid cell had values greater than or equal to 100,000 cells/L for the years 2000-2018.

1.3. Is this a one-time data collection, or an ongoing series of measurements?

1.4. Actual or planned temporal coverage of the data:

1.5. Actual or planned geographic coverage of the data:

W: -97.522273, E: -79.909497, N: 31.173994, S: 23.999996

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

2.5. Phone number:

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2019-01-01 00:00:00 - (1) Downloaded HABSOS data from National Centers for Environmental Information (NCEI) and imported the CSV to a shapefile in ArcGIS. (2) Merged these data with data provided by Karen Kavanaugh (Karen.Kavanaugh@ noaa.gov) of NOAA CO-OPS (including Louisiana Dept of Health and Hospitals and Texas Parks & Wildlife Department) and data provided by the Florida Fish and Wildlife Commission (FWRI). Data were requested from FWRI by emailing HABdata@MyFWC.com. (3) Data were QA/QC'ed and attributes were re-worked to fit with all of the data provided. For example, the data were re-categorized so the HABs categories ('Category' attribute) all matched the HABSOS categorization scheme. Additionally, all absent or not present data observations were categorized as 'Not Present'. (4) Some errors were found in provided data sets, and follow-up conversations were conducted with data contacts through all data sources. For the HABSOS dataset, we contacted NCEI and were put in touch with the data point-of-contact for the dataset (NCEI Accession 0120767). The errors found in the HABSOS dataset were fixed and the corrected and updated data are now archived with NCEI. (5) Additional attributes were added for ease of data analysis. For example, the ' Presence' binary attribute was added in order to easily indicate presence or absence of K. brevis. (6) Data duplicates were removed by using ArcGIS tools to identify and delete duplicates based on the following attributes: Sample Date, Sample Depth, Cell Count, Latitude, and Longitude. (7) The data were clipped to 1/ 4 mile inland due to confidence of the data and the lack of relevance to freshwater systems. (8) Clipped out only years 2000-2018 for data analysis (“HABS_2000_2018” data layer) after looking at sampling distribution from 1954 to 2018. Sampling was irregularly conducted until about 2000, so for the sake of analysis we used the 2000 to 2018 temporal period as more regular sampling was occurring. The final point data set was complete. (9) Lastly, an 8 square kilometer hexagonal grid was created covering the Gulf of Mexico and eastern Florida. Each year between 2000-2018 was evaluated separately, and if a grid cell contained an observation that registered a value of over 100,000 cells/L (the lethal toxicity level for finfish) then that grid cell obtained a value of '1‘. All other grid cells received a value of '0’ to represent observations below the lethal level of concern to fish. After all years were evaluated, the values for each year were totaled to obtain a resulting frequency value for that grid cell, representing the number of years that grid cell had values ≥ 100,000 cells/L for the years 2000-2018. This layer indicates the frequency of K. brevis blooms in each 8 square kilometer area over time.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:
- 1.3. Is this a one-time data collection, or an ongoing series of measurements?
- 1.4. Actual or planned temporal coverage of the data
- 1.6. Type(s) of data
- 1.7. Data collection method(s)
- 2.1. Point of Contact Name
- 2.4. Point of Contact Email
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.2. Data storage facility prior to being sent to an archive facility
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/58081

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
NOAA Office for Coastal Management (NOAA/OCM)

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
ftp://ftp.coast.noaa.gov/pub/MSP/ORT/HarmfulAlgalBlooms.zip
https://coast.noaa.gov/arcgis/rest/services/OceanReportingTool/HarmfulAlgalBlooms/MapServer
https://www.coast.noaa.gov/
https://www.marinecadastre.gov/data/

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.